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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/672,252

Applicant(s)

CRAFT ET AL.

Examiner

Dennis L. Vautrot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 26-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/25/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/25/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Applicant's amendment, filed 25 September 2003, has been received, entered into the record, and considered. Since the originally filed application included only claims 1-21, and the amendment deleted claims 1-25 and added claims 26-33, the examiner will treat claims 22-25 as deleted claims.
2. As a result of the amendment, claims 26-33 have been added.
3. The Applicant's amendment, filed 28 October 2003, has been received, entered into the record and considered.
4. As a result of the amendment, claims 34-44 have been added.

### ***Information Disclosure Statement***

5. The Applicants' Information Disclosure statement (IDS), filed 25 September 2003, has been received and entered into the record. Since the IDS complies with the provisions of MPEP § 609, the references cited therein have been considered by the examiner. See attached form PTO-1449.

***Specification***

6. The abstract of the disclosure is objected to because it exceeds fifteen lines of text. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 101***

7. Claims 43 and 44 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. These claims merely describe a data structure, and are per se non-statutory in violation of provisions of 35 U.S.C. § 101 in view of the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, published on 26 October 2005, which can be found at [http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf), particularly with respect to ANNEX IV Computer-Related Nonstatutory Subject Matter, on page 52. "Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

***Double Patenting***

8. Claims 16-23, 10-14 and 6-8 of Patent #6,704,739 contain every element of claims 26-33, 34-39, and 40-42 respectively of the instant application and thus anticipate the claims of the instant application. Claims of the instant application therefore are not patently distinct from the earlier patent claims and as such are

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unpatentable over obvious-type double patenting. A later application claim is not patentably distinct from an earlier claim if the later claim is anticipated by the earlier claim.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 26-31 are rejected under 35 U.S.C. 102(e) as being anticipated by **Goiffon** (US 6,327,593).

11. Regarding claim 26, **Goiffon** teaches a computer program product, tangibly stored on a computer-readable medium, the program comprising instructions operable to cause a computer to: present to a user a storage interface to receive location information from the user to identify a storage location identifier for a data asset to be saved (See column 15, lines 45-47 "Using a standard user interface, the user is allowed to select any one or more of the asset elements located in Window 810."); link the storage interface to a searchable tag database of concept data elements, asset

references, and associations, the concept data elements each representing a concept and having a hierarchy specified by concept hierarchy information, the asset references each comprising a storage location identifier for a corresponding one of a plurality of data assets, and the associations representing different types of relations between one of the plurality of data assets and one of the plurality of concepts represented by concept data elements (See column 10, lines 10-13 "A parent concept is a concept directly related to the located concept and which exists one level of generalization above the located concept in the concept hierarchy."); receive from the user through the storage interface the location information for the data asset to be saved and a selection identifying a concept and a relation between the concept and the data asset to be saved (See column 15, lines 47-50 "This selection could be accomplished, for example, by highlighting one or more asset elements using the "control", "shift" and "arrow" keys in a manner known in the art."); and store in the tag database an asset reference for the data asset to be saved and creating in the tag database an association representing the identified relation between the data asset to be saved and the identified concept (See column 16, lines 5-8 "This specifies that an association is to be formed between each asset element in the group defined in Window 810, and a concept element associated with each locator element specified in Window 800." Here, there is clearly a relationship stored between the concept and the data asset, rather than just between concepts.)

12. Regarding claim 27, **Goiffon** teaches receive information from the tag database identifying concepts and relations that can be selected during a "save" operation (See

column 11, lines 60-63 "After any search iteration, a user is allowed to select an option provided by the Element Locator to view the saved query data and associated results for all prior iterations of the search."); display the tag information to the user through a tag data interface, the tag data interface allowing the user to select tag elements to identify associations for data assets to be saved ("See column 11, line 67 and column 12 lines 1-5 "Using a standard "drag and drop" interface that is well-known in the art, the user is allowed to use this information to modify the information stored in Repository 104 so that new relationships are created between selected elements, or so that new locator elements are added to the repository.")

13. Regarding claim 28, **Goiffon** teaches present to the user a tag creation interface to receive information from a user to define a new concept; and store a new concept data element representing the new concept in the tag database. ("See column 11, line 67 and column 12 lines 1-5 "Using a standard "drag and drop" interface that is well-known in the art, the user is allowed to use this information to modify the information stored in Repository 104 so that new relationships are created between selected elements, or so that new locator elements are added to the repository.")

14. Regarding claim 29, **Goiffon** teaches receive from the user through the tag creation interface hierarchy information identifying a hierarchical relation between the new concept and the plurality of concepts (See column 6, lines 17-21 "Each concept may further be related to other child concepts wherein each child concept exists

immediately below the related (parent) concept in the tree hierarchy. The child concept is similar to the parent concept, but with specific differences."); and store concept hierarchy information representing the hierarchical relation between the new concept and the concepts represented by the concept data elements in the tag database. (See column 6, lines 30-33 "Each concept may be stored as a string of ASCII characters, although other types of identifiers may be used to represent or identify concepts.")

15. Regarding claim 30, **Goiffon** teaches the product of claim 26, wherein the tag database further comprises a plurality of relation data elements each identifying a relation and having a hierarchy specified by relation hierarchy information, and wherein the product further comprises instructions to: present to the user a tag creation interface to receive information from a user to define a new relation (See column 8, lines 38-45 "...the asset elements of FIG 3, and relationships that interrelate some of the concept elements to selected asset elements..."); and store a new relation data element representing the new relation in the tag database (See column 8 lines 49-54 "The asset and locator elements and the element relationships are included in Object Management System shown in block 406, used to manage the asset elements.")

16. Regarding claim 31, **Goiffon** teaches receive from the user through the tag creation interface hierarchy information identifying a hierarchical relation between the new relation and the plurality of relations (Column 13, lines 30-33 "The user may selectively expand the display shown in Window 708 for any of the application domains



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so that the display includes the hierarchy of concepts, words, and word variants existing within the selected application domain.” and see Column 13, lines 63-66 “Expanding the search to include parent concepts causes all concepts located immediately above a located concept within the concept hierarchy to be used in searching for asset elements.”); store relation hierarchy information representing the hierarchical relation between the new relation and the plurality of relations in the tag database (See column 6, lines 30-33 “Each concept may be stored as a string of ASCII characters, although other types of identifiers may be used to represent or identify concepts.”)

17. Claims 34, 35, and 38-44 are rejected under 35 U.S.C. 102(b) as being anticipated by **Noyes** (US 5,878,406).

18. Regarding claim 34, **Noyes** teaches a computer program product tangibly stored on a computer-readable medium, the program comprising instructions operable to cause a computer to: establish a database of concepts, asset references, and associations (See column 7, lines 43-48 “The Knowledge Representative Database is a new type of database system which represents knowledge as a network of a plurality of cross-referenced records comprising a computer database. The representation of knowledge is based on the insight that knowledge is a network of concepts and relationships between concepts.”); the asset references each comprising a storage location identifier for a corresponding one of a plurality of data assets, each association defining a type of relationship, from a plurality of types of relationships, between a data

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asset and a concept (See column 23, lines 1-11 "The distinction between the (73e) and (73f) potential value relationships is that (73e) is stored in the Attribute record and may or may not include the attribute reference number in the stored relationship (since this can be inferred from the storage location), while the (73f) potential value relationship is stored in the Component record and always stores the (73b) Attribute reference number to which it pertains. The significance of the (73e) potential value relationship is that its existence in a particular Attribute record defines the (73c) Components embedded with it in that Attribute record as generally pertaining to that Attribute.")

19. Regarding claim 35, **Noyes** teaches present to the user a location interface to receive location information from the user to locate a desired data asset; link that location interface to the database; receive from the user through the location interface a query identifying a concept and a relationship; use the query to search the database to identify a set of data assets each having the relationship with the concept; and present to the user information identifying the data assets in the set. (See column 42, lines 21-23 and lines 26-29 "The user is prompted for the specification of the Target. It is helpful to present a menu of possible targets for the user's selection... At step (25c), the Target Relationship list is read using the Output Record Operations to read the Relationship list stored in the target record of the Knowledge Representation database.")

20. Regarding claim 38, **Noyes** teaches the instructions to use the query to identify a set of data assets include instructions to find each asset reference in the database having the relationship with the concept. (See column 2, line 64 – column 3 line 2 “In this invention, the hypertext-like behavior is a consequence of the relationships stored at each record so that the view document has the feel of having hypertext implemented on a massive scale; every icon is a portal to all other view documents containing the concept and is also a portal to all related concepts.”) The “asset reference” from the claim is referred to as a “view document” in **Noyes**.

21. Regarding claim 39, **Noyes** teaches the instructions to use the query to identify a set of data assets include instructions to find each asset reference in the database having the relationship with the concept and each asset reference in the database having the relationship with a hierarchical descendent of the concept. (See column 17, lines 56-61 “The (12o) parents, (12p) children, and (12q) interstrata, are lists of reference numbers used to store the fundamental relationships of the Concept record. The (12o) Parents are used to store the reference numbers indicating the hierarchical progenitor within the abstraction stratum. The (12p) children are used to store the reference numbers indicating the hierarchical descendants within the abstraction stratum.”)

22. Regarding claim 40, **Noyes** teaches the relationships have a hierarchy specified by relationship hierarchy information; and the instructions to use the query to identify a

set of data assets include instructions to find each asset referenced in the database having the relationship with the concept (See column 2, line 64 – column 3 line 2 “In this invention, the hypertext-like behavior is a consequence of the relationships stored at each record so that the view document has the feel of having hypertext implemented on a massive scale; every icon is a portal to all other view documents containing the concept and is also a portal to all related concepts.” The “asset reference” from the claim is referred to as a “view document” in **Noyes**.) and each asset reference in the database having a hierarchical descendent of the relationship with the concept. (See column 17, lines 56-61 “The (12o) parents, (12p) children, and (12q) interstrata, are lists of reference numbers used to store the fundamental relationships of the Concept record. The (12o) Parents are used to store the reference numbers indicating the hierarchical progenitor within the abstraction stratum. The (12p) children are used to store the reference numbers indicating the hierarchical descendants within the abstraction stratum.”)

23. Regarding claim 41, **Noyes** teaches the instructions to receive from the user a query identifying a concept and a relationship include instructions to receive from the user a query further identifying a second concept and a second relationship; and wherein each data asset in the identified set of data assets having the relationship with the concept has the second relationship with the second concept. (See column 7, lines 46-49 “The representation of knowledge is based on the insight that knowledge is a network of concepts and relationships between concepts (i.e. the meaning of a concept

is defined by its relationship to other concepts.” And see column 7, lines 56-59 “An effect of this system for Knowledge Representation is the creation of a massively cross-referenced database wherein the cross-referencing is the essence of the database instead of an adjunct or supplement thereto.”)

24. Regarding claim 42, **Noyes** teaches the instructions to establish a database of concepts, asset references, and associations include instructions to establish a database that further comprises detail associations, each detail association representing a relationship between a first and a second concept; the instructions to receive from the user a query that identifies a concept and a relationship includes instructions to receive from the user a query that further identifies a second concept and a second relationship, the second concept and second relationship representing a detail association; and the instructions to use the query to identify a set of data assets includes instructions to use the query to identify a set of data assets where each data asset in the identified set of data assets has a detail association comprising the second relationship between the concept and the second concept. (See column 7, lines 46-49 “The representation of knowledge is based on the insight that knowledge is a network of concepts and relationships between concepts (i.e. the meaning of a concept is defined by its relationship to other concepts.” And see column 7, lines 56-59 “An effect of this system for Knowledge Representation is the creation of a massively cross-referenced database wherein the cross-referencing is the essence of the database instead of an adjunct or supplement thereto.”)

25. Regarding claim 43, **Noyes** teaches a database comprising: one or more concepts that include links to one or more data assets that have specific relationships to an associated concept, where the relationships are selected from a plurality of possible relationships. (See column 9, lines 40-43 "The icons may also behave like Hypertext links in that they are linked to procedures that can automatically derive all view documents of the concept and all concepts and relationships associated with the concept.") The "data assets" mentioned in the claim are equivalent to the "view documents" of the reference, because, as noted in applicant's specification on page 4, lines 4-6, "...data assets can include word processing files, database files, picture files, database records, or any other type of electronically stored data." Also, given that the reference cites to "...all concepts and relationships associated with the concept..." it would be inherent that a "plurality of possible relationships" would be encompassed by that as well.

26. Regarding claim 44, **Noyes** teaches the database of claim 43, wherein the relationships have a hierarchy specified by relationship hierarchy information. (See column 13, lines 51-54 and lines 57-63 "A result of the system concepts and the fundamental relationships is that the knowledge representation has a structure that may be visualized as a tree structured hierarchy... Note that the interstrata relationships in the tree structured hierarchies of FIG. 7 have specific meanings: the organizing principle of the Attribute and Component strata can be thought of as (7a) taxonomy (i.e.

Class and Subclass); while the organizing principle of the Project stratum can be thought of as (7b) composition (i.e. structure and substructure).”)

***Claim Rejections - 35 USC § 103***

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Goiffon** as applied to claim 30 above, and further in view of **Noyes** (US 5,878,406). **Goiffon** teaches a method substantially as claimed. **Goiffon** fails to teach detail associations each representing a relation between a first and a second concept, and the product further comprises instructions to: receive from the user through the tag creation interface new detail association information identifying a relation between a first and a second one of the plurality of concepts; store the new detail association information in the tag database. **Noyes**, however, teaches detail associations each representing a relation between a first and a second concept, and the product further comprises instructions to: receive from the user through the tag creation interface new detail association information identifying a relation between a first and a second one of the plurality of concepts; store the new detail association information in the tag database (See column 7, lines 46-49 “The representation of knowledge is based on the insight

that knowledge is a network of concepts and relationships between concepts (i.e. the meaning of a concept is defined by its relationship to other concepts.” And see column 7, lines 56-59 “An effect of this system for Knowledge Representation is the creation of a massively cross-referenced database wherein the cross-referencing is the essence of the database instead of an adjunct or supplement thereto.”) Therefore, it is only logical that the relationships would have to be stored in the database, as mentioned in the claim, in order to create this database. It would have been obvious to one with ordinary skill in the art to also store the association between multiple concepts as well in order to lead to more successful integration of the databases. It is for this reason that one of ordinary skill in the art would have been motivated to include detail associations each representing a relation between a first and a second concept, and the product further comprises instructions to: receive from the user through the tag creation interface new detail association information identifying a relation between a first and a second one of the plurality of concepts; and store the new detail association information in the tag database.

29. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Goiffon** as applied to claim 26 above, and further in view of **Noyes** (US 5,878,406). **Goiffon** teaches the method, substantially as claimed. **Goiffon** fails to teach the searchable tag database includes detail associations that describe relationships between concepts in the tag database, the relationships selected from a plurality of different types of relationships. **Noyes**, however, teaches the searchable tag database includes detail



associations that describe relationships between concepts in the tag database, the relationships selected from a plurality of different types of relationships. (See column 9, lines 5-8 "Types embody procedures for identifying the concepts relevant to the document by means of reading concepts in networks of defining and auxiliary relationships and embody procedures for icon assignment (i.e. vocabulary).") It would have been obvious to one with ordinary skill in the art to include the relationships between the concepts in order to more effectively handle queries that involve different concepts. It is for this reason that one of ordinary skill in the art would have been motivated to have the searchable tag database include detail associations that describe relationships between concepts in the tag database, the relationships selected from a plurality of different types of relationships.

30. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Noyes** as applied to claim 35 above, and further in view of **Goiffon** (US 6,327,593).

31. Regarding claim 36, **Noyes** teaches a computer program product substantially as claimed. **Noyes** fails to teach receive search information from the database identifying concepts and relationships that can be searched; and display the search information to the user through a query interface that allows the user to define the query. However **Goiffon** teaches receive search information from the database identifying concepts and relationships that can be searched; and display the search information to the user

through a query interface that allows the user to define the query. (See column 14, lines 16-21 and lines 26-27 "Concept elements are further located using the character strings specified in Block 700. Search expansions may be performed, if selected by the user in Boxes..., to include concepts related to those located concepts. This will cause additional concept elements to be located for purposes of the search...After the search is completed, the located asset elements are shown in Window 730.") It would have been obvious to one with ordinary skill in the art to have the searchable concepts and relationships displayed to the user in order to facilitate advanced queries more efficiently. It is for this reason that one of ordinary skill in the art would have been motivated to receive search information from the database identifying concepts and relationships that can be searched; and display the search information to the user through a query interface that allows the user to define the query.

32. Regarding claim 37, **Noyes** teaches a computer program product substantially as claimed. **Noyes** fails to teach receive a selection from the user of a desired data asset from among the identified data assets; and return to an application a file handle for the desired data asset. However, **Goiffon** teaches receive a selection from the user of a desired data asset from among the identified data assets; and return to an application a file handle for the desired data asset. (See column 14, lines 16-21 and 34-38 and 41-43 "For the specified word "Account" shown in Block 702, the asset element "CustAccount" is shown in Window 730. This display includes asset element name "CustAccount", and further includes the type of asset element, which in this case is 'Oracle Table'...In the

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manner described above, the user may perform multiple search iterations by selecting different query terms...then reselecting the "Search function...After each iteration, any located asset elements are shown...Asset elements located during the search are stored in the Results Stack.") It would have been obvious to one with ordinary skill in the art allow the user to choose which asset to access and respond with the file handle for locating the asset because the file handle is necessary for locating the asset. Without the file handle, the entire asset would have to be present, rather than just a pointer to the asset, as occurs in **Goiffon**. It is for this reason that one of ordinary skill in the art would have been motivated to receive a selection from the user of a desired data asset from among the identified data assets; and return to an application a file handle for the desired data asset.

### ***Conclusion***

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

"Generating Association Rules from Semi-Structured Documents Using an Extended Concept Hierarchy" by Lisa Singh, Peter Scheuermann, and Bin Chen, CIKM 97 Las Vegas, NV 1997. Teaches relationships among concepts, rather than relationships between concepts and data assets.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis L. Vautrot whose telephone number is 571-272-2184. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Div  
31 March 2006

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Art Unit 2167

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